AMSAT SATELLITE REPORT

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More News Releases On Radio

In *ASR* #23, page 3, we quoted a TASS news release on the launch of the new Russian Amateur Radio Satellites, Radio 3, 4, 5, 6, 7 and 8. Now in another release from a Russian language newspaper comes further information on the new Sputniks.

Sovetskiy Patriot, 27 December 1981, p 4, independent article: (Translation in full.)

Radiosatellites
Above The Planet

As has been reported in our newspaper, radioamateur communication satellites, built by creative collectives of DOSAAF radioamateurs, were launched into orbit around the Earth in the Soviet Union on 17 December 1981. Equipment installed in them is being used for carrying out distant radiocommunications between radioamateurs and for the transmission of radiotelemetry information from on board the satellites to Earth.

The radioamateur satellites operate in the following manner. The repeaters in the satellites "Radio-5," "Radio 6," "Radio-7," and "Radio-8" have the frequency passbands: "Radio-5" and "Radio-6"—145.910 - 145.950 kHz (Earth to Space), 29.410 - 29.450 kHz (Space to Earth); "Radio-7" and "Radio-8"—145.960 - 146.000 kHz (Earth to Space), 29.460 - 29.500 kHz (Space to Earth).

Included in the satellites "Radio-5" and "Radio-7" are automatic operators—the so-called "Robots," which operate on the frequencies: "Radio-5"—145.826 kHz (Earth to Space), 29.331 kHz (Space to Earth); "Radio-7"—145.835 kHz (Earth to Space), 29.341 kHz (Space to Earth). To operate with the "Robot," it is necessary, following the end of its CQ, to transmit one's call, consisting of the following message: The call-sign of the satellite; de, one's own call-sign, and AR. All of this is sent once.

Radiobeacons are in operation in all of the satellites.

The satellites "Radio-3" and "Radio-4" are intended for the carrying out of experiments.

According to data as measured by radioamateurs, the periods of rotation of the satellites are: "Radio-3"—118.3 min.; "Radio-4"—119.5 min.; "Radio-5"—119.6 min.; "Radio-6"—118.8 min.; "Radio-7"—119.4 min.; "Radio-8"—119.8 min.

Wednesday is the day for experimental operation. On that day radioamateurs are not authorized to carry out communications via the satellites.

Operation by radioamateurs via the satellites is to take place using only the power set by the rules.

Federation of Radiosport of the USSR

What is particularly notable about this news report is what it says and what it does not say about RS-3 and RS-4. It states: "Radio-3 and Radio-4 are for the carrying out of experiments." It does not mention these two as carrying either (or both) transponders or robots. There is no mention of frequencies associated with RS-3 or RS-4 transponders or robots. Yet in a variety of previous communications originating in the USSR we have learned that fully SIX transponders and THREE robots were to be launched. Are one of each now held in reserve on the ground? Perhaps (as is done in commercial satellites) they are "in-orbit" spares! Indeed, since we have received the frequencies of RS-3 and RS-4 robots and transponders (robot on Radio 3) from a reliable source and there have been persistent reports of short RS-4 transponder activity (such as might be expected as part of a post-launch check-out), AMSAT judges that the in-orbit spares concept should not be dismissed lightly.

Also of interest in this news story is the mention that Wednesday's are for experimental operation only. This is in keeping with the tradition initiated with OSCAR that would allocate a small period (24 hours) for serious experimenters to obtain the entire resources of the instrument in order to conduct sensitive measurements apart from the distortions which likely would occur in a populated bandpass. AMSAT strongly endorses the position of the Federation of Radio Sport of the USSR on this specific issue and encourages Amateurs around the world to studiously respect the wishes of their colleagues in this connection.

Net Reminder

The AMSAT Net En Espanol is growing and seeking new participants. Dave, XE1TU, in Mexico City convenes the net each Sunday at 1900 UTC on 14.180 MHz for those OSCARites whose primary tongue is Spanish. The net is open to all stations world-wide who desire the latest information about the satellites in Spanish.

A complete world-wide list of AMSAT affiliated Nets appears in *ORBIT* Magazine #9 just coming off the presses. Check it out.

Midwest Fete Honors OSCAR 1

More than a dozen amateurs and friends of Amateur Radio gathered at the home of Dr. John Champa, K8OCL, the evening of 12 Dec. 81 to commemorate the 20th anniversary of OSCAR 1's birth. John is AMSAT's Area Coordinator for northeast Ohio and is also AMSAT's liaison to the Solar Sail Project. Visiting with K8OCL were: WB8OTH, K8DKO, WB8AYM, AB8W, KB8ZS, N8CIY, W8BTW, KA8LUO, W8UMH, WB8OJS, W8LGY, KB8I and Mr. B.J. Lahr. The group enjoyed reminiscing about their early OSCAR days and other ham activities. A good time was had by all (as will be evidenced by photos in the next issue). Donations were made and T-shirts, badges and patches were distributed.

Emphasize Ten Meter Cooperation

Contention for frequency resources in the ten meter band has become keen in the recent past. The peak of this solar cycle combined with a number of collateral factors (such as the availability of sophisticated synthesized 11 meter transceivers to convert to 10) has led to a situation where the satellite ten meter downlinks are often at a severe disadvantage.

There is some hope emerging that the ruffled feathers deriving from competition for frequency resources will eventually be smoothed.

First, as ten meter propagation conditions subside with the abatement of solar activity, those amateurs who migrated to ten to enjoy the fruits of the band "In Season" will certainly move to more fertile grounds when "Autumn" arrives on ten in a year or two. Second, as has been mentioned in these columns on occasion as well as in *ORBIT*, the future of Amateur Radio Satellites lies not in continued exploitation of the hf band, but rather in the gradual migration upwards to vhf/uhf and above where spectral resources are copious, ionospheric effects substantially muted and the challenge of progress is most evident. Third, the growing availability of uhf equipment and a concurrent surge in interest (and amateur skills inventory there) shows a clear pattern. Just as Mode B was a stride forward when introduced on AO-7 and just as it took some time for the average ham to adapt, so also will be the case with the future Modes. The L-transponder on Phase IIIB will likely be sparsely populated for the first few months of operations. But just as Mode B became the most popular of all Modes once its potential was fully exploited, it seems likely that the L-transponder will become the most popular of all time!

The message here seems to be that the mutual interference on ten will be a short-lived phenomenon when viewed in the long aspect. As noted in the Editorial of the very first *ASR* ("Cohabitation"), our challenge is to avoid the presumption we "belong" there and to view the dual occupancy problem as one that needs attention to be sure, but certainly should not distract us from the enormously fertile grounds to which our "clan" is inexorably migrating. Obviously our claim to ten meter priority can be argued well. Weak signal work has traditionally been given a wide berth by other services just as the law of the seas gives priority to wind-powered craft over the fossil fueled variety. So it should be.

In a note to Amateurs around the world, a recent ARRL Bulletin makes an important step in informing ten meter users where "sailboats" frequent. The approach inherent here is that information, placed before rational persons of good will has more potential for good than does a blatant claim of priority rights. On the other hand, persons of ill-will will not be moved short of fisticuffs. Thus the approach is sound. We quote the Bulletin below. Pls QSP!

QST DE W1AW
HR ARRL Bulletin NR 154 From ARRL Headquarters
Newington, CT December 28, 1981
To All Radio Amateurs

Attention ten meter operators. With the recent launch of amateur satellites RS3 through RS8 by the USSR, the interference to satellite downlinks in the band 29.3 to 29.5 MHz has become an increasing problem. Operators are asked to avoid transmitting in this segment if at all possible, to minimize interference to the satellite signals. AR

Week's Orbital Data

The following orbital data is supplied for the named satellites. The data is suitable for entry in the W3IWI orbital prediction and tracking program. (See *ORBIT*, Mar./Apr. 81).

	AO-8	UO-9
Element Set #	615	75
Ref. Epoch	81 363.56798949	81 363.56153600
1st Der. Mean Mot.	0.00000072	0.00009434
Inclination	98.7973	97.4631
RAAN	31.0756	324.0415
Eccentricity	0.0008040	0.0004239
Arg. of Perigee	13.0731	31.7465
Mean Anomaly	347.0611	328.4039
Mean Motion	13.96382690	15.12121797
Rev. # of Ref. Epoch	19462	1271

East Coast to Hawaii Path Opens on RS

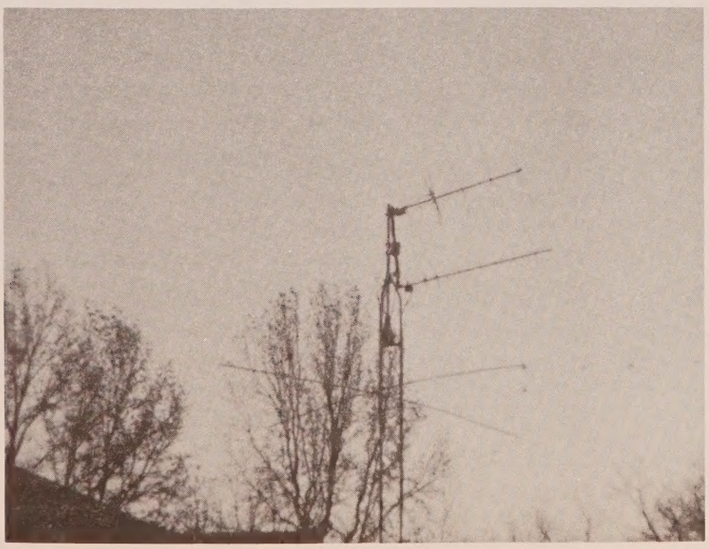
The long-sought Hawaii channel for OSCAR-users on the East Coast of the U.S.A. has come alive again after a long dormant period. The last time the path was worked with any regularity was back in 1978 when RS-1/2 were up and running. On rare occasions since then AO-7 had provided tantalizing glimpses for those determined to obtain HI for their 50th on OSCAR W.A.S. Now we have the report that three Washington, D.C. stations have worked two Hawaiians using RS-8. AMSAT President W3IWI, AMSAT Vice President/Operation, K1HTV and AMSAT Technician KA1GD all were on at 0610 - 0615 UTC, 10 Jan. 82 when WH6AMX and KH6IBA appeared in the passband. The QSO's were complete and jubilation was expressed at both ends of this near-record circuit.

ASR *Spotlight On:*
KO5I, Doug Loughmiller

Occasionally in our organization one happens upon an individual whose contagious enthusiasm so innoculates those around him that productive, valuable things just "seem to get done as if by magic." A classic case in point, indeed the paradigm of contagious enthusiasm, is this issue's spotlight individual, KO5I, Doug Loughmiller.

To use a rather apt metaphor, this lanky Texan has truly taken the bull by the horns in his capacity as North Texas Area Coordinator for AMSAT. Indices to the success of his indefatigable attitude abound. His recent record includes an incredible ten major presentations in the most recent six month period! The presentations included appearances at East Texas State University, the Texoma conference at Lake Texoma, Oklahoma, Optimists Club, Sherman Texas Amateur Radio Club and one of the largest conventions in the country, HAMCOM in Dallas (with the able aid of W3HV). With all this productive work being done by KO5I, *ASR* thought it would be interesting to get to know this young spark plug on a personal level.

Doug is a native of a small town in southern Indiana having been born there in 1956. His early years were mostly spent in the Indianapolis area where, at the age of 16, he became WB9KPC. In typical Loughmiller enthusiasm, he immersed himself in the hobby. Then, in a watershed event, he met W9AI who introduced Doug to OSCAR satellites. As they say, the rest is history. Doug's level of activity made a marked increase about a year ago when he volunteered to become Area Coordinator for North Texas. What resulted turned the situation in Texas upside down! Whereas previously there appeared to be only mediocre levels of interest, Doug's aggressive, affirmative attitude virtually kicked the door down on obstacles to public exposure of what Doug viewed as a most enchanting aspect of Amateur Radio. Indeed, it was the more exotic aspects of the "Hams in Space Theme" that ignited the fire of enthusiasm under this Texas firecracker. He had already been predisposed to vhf operation (6 meters was his favorite), so gravitating to OSCAR operations can be seen in retrospect as likely having been inevitable.



What strikes one broadside about this individual besides the obvious exuberance is his maturity. Actually maturity is an incomplete description of Doug. There is a term which at once is less concise yet seems to convey more of the essence of what makes KO5I work so well. That word is "saavy." Doug is plainly a very "saavy" trooper with a keen judgement of personalities and a basically practical nature. He says "a lot of very valuable work can be done for AMSAT and the satellite program without the expenditure of large sums of money or PhD-level technical expertise."

Finally, Doug has an inordinate sense of leadership that distinguishes him further among his contemporaries. "Either lead, follow or step aside" he cites as his credo. With attitudes and motivation such as Doug's on tap, AMSAT's lot is manifestly enriched. *ASR* salutes this fine young man on behalf of all of the organization. Well done, Doug!

(*Editor's note:* Doug will be again up-notching his contribution when, on 31 Jan. 82, he becomes one of the AMSAT Net Control Stations; Doug will be doing the 20 and 15 meter nets that day and will be joining the rotation of NCS with W8GQW, KEØT and WA2LQQ on the weekly Nets.)

ORBIT *Staff Realignment Told*

AMSAT announced this week the appointment of a new Editor to the *ORBIT* Magazine staff. Tony Dorbuck, K1FM, will become Editor effective immediately. Unlike prior Editors G3ZCZ and WA2LQQ, K1FM will be a contract employee of AMSAT and will report to the Editor-in-Chief, a new position. WA2LQQ becomes Editor-in-Chief with overall responsibility for *ORBIT* while K1FM will be responsible for editing manuscripts and supervision of supporting staff N6TE and W4PID. K1FM will work closely with Managing Editor W1XT in the production process to improve the timeliness of the publication. Since both K1FM and W1XT are in Connecticut, the logistical considerations which were problems before should now be reduced noticeably.

K1FM has a long and distinguished career both as a writer and engineer. He was employed by the ARRL for some 9 years. While at the League Tony was Handbook Editor, Recent Equipment Editor and did a Hint 'N Kinks edition for ARRL. For a short time during *ORBIT's* formative period, Tony was Technical Editor of the AMSAT flagship publication. He holds a MSEE from the University of Connecticut and is a whiz at filter design. He has written several technical books and has one pending publication on assembly language programming. Tony holds an Extra Class ticket and was formerly W1YNC.

ORBIT Editor-in-Chief WA2LQQ said that the addition of K1FM to the *ORBIT* staff was an important move in realigning tasks within the organization. Since the departure of G3ZCZ last summer, *ORBIT* has been slipping within its production schedule. "Corrective measures were clearly indicated and Tony's addition to the staff is just what is needed," said WA2LQQ.

Planning began with the *ORBIT* senior staff 9 Jan. for six issues during calendar 1982. The major facets in planning the production schedule were the Dayton Hamvention in late April and the launch of Phase IIIB in July. Both will be major events to which *ORBIT's* schedule will be keyed.

Meanwhile *ORBIT* Advertising Director WA2NFJ reports that sales are very encouraging and that means more revenues for AMSAT. That means that AMSAT can hold its subscriber (member) costs from rising longer than it otherwise could if advertising revenues failed to develop.

ORBIT Magazine replaced the AMSAT Newsletter (a quarterly publication) in the Spring of 1980 in anticipation of the Phase IIIA launch and with the expectation that the advent of Phase III would result in a growth in AMSAT membership roles to the 20,000 range. However, when the defective Ariane LO2 launcher deposited Phase IIIA in the Atlantic, the decision was made that *ORBIT* Magazine should continue instead of reverting to the old newsletter format. That decision has proved costly to the organization since the member dues do not fully cover the costs of publication and the advertsing revenues have been slow in coming since the readership is not what it would become after Phase III is born. The AMSAT Board has reluctantly continued *ORBIT* in the face of rising costs rather than putting *ORBIT* on "hold" for several editions only to revitalize it just before Phase IIIB goes aloft.

The addition of K1FM to the staff clears a growing log-jam that threatened the entire structure and the viability of the publications concept. Look for K1FM's name on the masthead in future editions of your magazine!

OSCAR 1 Certificate Rush

As the mailbox amply demonstrates, the OSCAR 1 20th Anniversary Certificate offer by AMSAT has drawn a heavy response. Literally hundreds of enthusiastic satellite devotees around the world have sent in their SASEs to WA2LQQ in order to receive their unique "wallpaper." Also, since the overseas requests are just beginning to arrive, the period for requesting the certificates has been extended indefinitely although the official commemoration ended 12 Jan. 82.

To apply for the free 20th anniversary of OSCAR 1 certificate simply send a #10 SASE or larger to: WA2LQQ, P.O. Box 177, Warwick, NY 10990.

	RS-3	RS-4	RS-5	RS-6	RS-7	RS-8
Element Set #	13	12	11	11	12	11
Ref. Epoch	81 364.44478399	81 364.45746867	81 365.72007749	81 364.46647854	81 364.43589119	81 364.49755034
1st Der. Mean Mot.	0.00000024	0.00000119	0.00000140	0.00000031	0.00000148	0.00000201
Inclination	82.9606	82.9566	82.9590	82.9592	82.9568	82.9568
RAAN	271.9622	272.1074	271.4345	271.9840	272.0499	272.0895
Eccentricity	0.0059884	0.0017824	0.0008868	0.0050936	0.0022580	0.0018256
Arg. of Perigee	71.4441	118.5426	145.6934	81.5795	85.0243	188.7809
Mean Anomaly	289.3109	241.7412	214.4686	279.1069	275.3422	171.2957
Mean Motion	12.15569961	12.06644416	12.05035794	12.13535333	12.08659422	12.02916348
Rev. # of Ref. Epoch	158	157	172	158	157	151

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